Abstract of the Disclosure

A flash optical performance monitor for monitoring DWDM channels is disclosed. The monitor is to assess the spectral quality of an optical signal received and to determine from changes in the spectral quality, relative to a known spectral quality indicative of an acceptable signal, an estimate of signal quality. The flash optical performance monitor comprises a spectrometric transducer for performing a spectral decomposition of the optical signal received, and for transforming the decomposed optical signal into electrical-domain data, a memory for storing advanced digital signal processing routines, and a processor in connection with the wavelength optical unit and with the memory. The processor receives the advanced digital signal processing routines and the electrical spectral data, and applies the advanced digital signal processing routines to the electrical spectral data. Also a method for monitoring a quality of data transmission of at least one optical channel is disclosed. The method comprises the steps of capturing a spectrum of an optical signal transmitted on the at least one optical channel at an instance in time, providing a spectrum of a time-domain signal, performing an analysis of the spectrum to determine a quality of the optical signal, and from the quality of the optical signal – a quality of data transmission.